

Notice of Allowability

Application No.

09/802,356

Examiner

Jeremy S. Cerullo

Applicant(s)

WATANABE ET AL.

Art Unit

2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Appeal Brief filed on 15 December 2005.
2. ☒ The allowed claim(s) is/are 2-10, 12-20 and 22-30.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input checked="" type="checkbox"/> Other <u>PTO-413B</u> |



Khanh Dang
Primary Examiner

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Thinh Nguyen on 2 February 2006.

2. The application has been amended as follows:

3. Cancel Claims 1, 11, and 21.

4. Claim 2 should appear as:

2. The apparatus of claim 4 wherein the device access information includes at least one of slave address and write data.

5. Claim 4 should appear as:

4. An apparatus comprising:

a bus arbiter coupled to first and second processors via first and second master buses, respectively, to generate an arbitration select signal based on result of arbitrating bus access information from the first and second processors;

a first multiplexer coupled to the first and second master buses and a first slave bus in a plurality of slave buses to provide device access information selected from the bus access information using the arbitration select signal, the device access information being transferred to a first slave device connected to the first slave bus;

a second multiplexer coupled to the first slave bus to provide bus response information from device response information using the device select signal; and

a de-multiplexer coupled to the second multiplexer and the first and second master buses to transfer the bus response information to one of the first and second processors using the arbitration select signal.

6. Claim 12 should appear as:

12. The method of Claim 14 wherein providing device access information comprises providing at least one of slave address and write data.

7. Claim 14 should appear as:

14. A method comprising:

generating an arbitration select signal based on result of arbitrating bus access information from first and second processors via first and second master buses, respectively;

providing device access information selected from the bus access information using a first multiplexer and the arbitration select signal, the device access information being transferred to a first slave device connected to a first slave bus from a plurality of slave buses;

providing bus response information from device response information using a second multiplexer and the device select signal; and

transferring the bus response information to one of the first and second processors using a de-multiplexer and the arbitration select signal.

8. Claim 22 should appear as:

22. The system of claim 24 wherein the device access information includes at least one of slave address and write data.

9. Claim 24 should appear as:

24. A system comprising:

first and second processors coupled to first and second master buses;

a plurality of slave buses, each of the slave buses coupled to a plurality of slave devices; and

a master bus interface circuit coupled to the first and second master buses and the plurality of slave buses, the master bus interface circuit comprising a plurality of bus controllers, each of the bus controllers comprising:

a bus arbiter coupled to the first and second processors via the first and second master buses, respectively, to generate an arbitration select signal based on result of arbitrating bus access information from the first and second processors,

a first multiplexer coupled to the first and second master buses and a first slave bus in the plurality of slave buses to provide device access information selected from the bus access information using the arbitration select signal, the device access information being transferred to a first slave device connected to the first slave bus,

a second multiplexer coupled to the first slave bus to provide bus response information from device response information using the device select signal, and

a de-multiplexer coupled to the second multiplexer and the first and second master buses to transfer the bus response information to one of the first and second processors using the arbitration select signal.

Reasons for Allowance

10. The following is an examiner's statement of reasons for allowance:

11. In light of the Examiner's Amendment above and the Applicant's remarks in the Appeal brief filed on 15 December 2005, Claims 4, 14, and 24 are considered allowable, particularly due to the limitations that a second multiplexer and a de-multiplexer are

used to relay response information back to one of the processors using the arbitration signal used by the first multiplexer to provide access information. This limitation, when considered with the rest of the claim, distinguishes the present invention from the prior art of record.

12. Claims 2-3 and 5-10 are considered allowable based upon their dependence upon Claim 4.

13. Claims 12-13 and 15-20 are considered allowable based upon their dependence upon Claim 14.

14. Claims 22-23 and 25-30 are considered allowable based upon their dependence upon Claim 24.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy S. Cerullo whose telephone number is (571) 272-3634. The examiner can normally be reached on Monday - Thursday, 8:00-4:00; Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on (571) 272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JSC



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